

NT in the DII COE

NTAG Status Update

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NT Status in the DII COE

- Briefing Overview

Topics

- Background on Recent Activities
- Recent Guidance from the DII COE Engineering Office
- High Priority Tasks (to implement Guidance)
- Interim Guidance for Development and Segmentation
- Task Status

NT Status in the DII COE

- Background on recent NTAG activities

- JUL 97 NTAG Provides Comments to DISA on Draft I&RTS
- AUG 97 Internal DISA Review of Recommendations results in Significant Clarifications and Direction for NT
- SEP 97 Dr Perry Reviews Recommendations and Provides Guidance on NT and I&RTS
- OCT 97 AOG Briefed on DISA Guidance
- NOV 97 NT Security Configuration Guidance Drafted
- DEC 97 Draft Interim Guidance for DII COE NT Developers

NT Status in the DII COE

- Background on recent NTAG activities
- JUL 97 NTAG Provided DISA with 5 Recommendations
 - Use the MS Logo Specs to guide segment development
 - Define a new Segment Certification Process
 - Mandating Testing
 - Permits/Considers Outsourcing Options
 - Define a Commercial-Off-the-Shelf (COTS) Software Utilization and Distribution Process
 - Define a Government-Off-The-Shelf (GOTS) Software Distribution Process
 - Update Existing Documentation to Reflect Adoption of Previous Recommendations

NT Status in the DII COE

- Recent Guidance from the DII COE Engineering Office

- **DISA recently has provided significant clarification on the guidance contained in the I&RTS for Windows NT**
- **Microsoft Logo Program Specifications are recognized and fully embraced by DII COE for NT Segment Development**
- **Substantial amount of work remains - many details to be worked - but a good start has been achieved**
- **Key areas discussed and clarified:**
 - Segmentation
 - Installation/de-installation
 - Registry Use
 - Directory Structure

NT Status in the DII COE

- Recent NT Guidance Summary

- Segmentation
 - Self-describing segments remain a DII COE requirement for NT
 - DII COE guidance documents need to address Logo Specifications
- Installation/de-installation
 - Segment install/de-install is a common kernel function
 - Capability must be compliant with the MS Logo program specifications
 - It should transition smoothly to the native install/de-install capabilities planned for NTv5 and the Zero Administration Windows [ZAW]
 - It must work in multiple installation environments to install/de-install COTS, GOTS, and shareware
 - NTAG will investigate the **use of COTS** products to perform the Install/De-install functions

Recent Guidance from the DII COE Engineering Office

▪ Segmentation

- Concept of "self-describing" segments is a DII COE requirement that should be continued on the NT platform
- Augmentation of the DII COE guidance documents is needed to address Logo Program Specifications
 - Includes the I&RTS, the Style Guide, and others
- In evaluating and recommending augmentation of the COE with the Logo program, it is understood that:
 - Extensions unique to Microsoft are to be avoided when possible
 - When not possible, need must be clearly articulated with supporting rationale for DISA engineering to make such decisions

Recent Guidance from the DII COE Engineering Office

- Installation/De-Installation [1]
- **"Segment" install/de-install is a common function and the DII COE should continue to be responsible for this function as part of the NT-COE kernel**
- **"Common" install/de-Install capability must be:**
 - compliant with the MS Logo program specifications and
 - it should transition smoothly to the native install/de-install capabilities planned for NTv5 and the Zero Administration Workstation.

Recent Guidance from the DII COE Engineering Office

- Installation/De-Installation [2]
 - Some features that the Install/De-Install must support include:
 - Stand-alone, enterprise (push from a server), and "web-based" installations
 - Attended and un-attended installations
 - Work "in conjunction with" the NT "add software" Control Panel Applet
 - Capability to install/de-install COTS, GOTS, and most distribution formats of Shareware (ZIP, Self-exploding EXE, etc.)
 - A segment will use Segment Descriptor Files (SDF) to designate desired registry entries
 - SDFs will be used once by the DII COE install/de-install program for the correct registry settings for the segment
 - Run-time operation of the segment will use the Win32 API to interact with the registry information

Recent Guidance from the DII COE Engineering Office

- Installation/De-Installation [3]
- **NTAG should provide recommendations for**
 - Possible use of COTS products to perform the Install/De-install functions for the current NT platforms
 - Modifications, changes needed to the Segment Descriptor Files (SDFs) for proper installation of NT applications and segments
 - Other NT implementation issues, particularly with regard to use of the registry.

Recent Guidance from the DII COE Engineering Office

▪ NT Registry Use

- There is no intention in the I&RTS to place any restrictions on the use of the Registry database that are inconsistent with the definitions of "well behaved" Win32 applications. It is further understood that:
 - The implementation of "environment variables" defined in the I&RTS are for backward compatibility with legacy code (e.g. USER_HOME, SYSTEM_ROOT, etc.) can and should be implemented as registry entries
 - Guidance provided by the I&RTS on the "naming conventions" for application registration within the registry is completely compliant with the Logo Program

Recent Guidance from the DII COE Engineering Office

- **Directory Structure [1]**
- **I&RTS did not intend to dictate the “/h” directory structure on NT segments**
 - The /h structure described in the I&RTS is a logical structure preserved primarily for the benefit of legacy applications.
 - It is the intent of the COE to provide APIs to segments that return "handles" to directory locations rather than relying upon a fixed, hard coded structure
 - For NT, it is anticipated that these APIs will rely upon the registry for such information rather than a fixed disk directory structure

Recent Guidance from the DII COE Engineering Office

- **Directory Structure [2]**
- **Directory structure for NT segments will exhibit the following properties:**
 - NT segments will be "self contained"
 - NT segments will be "location insensitive"
 - Naming conventions for GOTS segments will continue to follow the DISA guidance established with a segment's registration
- **I&RTS concern for formal directory structure was understood to be necessary for the Configuration Management process controlling the software delivered to DISA**

Recent Guidance from the DII COE Engineering Office

- Directory Structure [3]
- **NTAG would be an appropriate forum to develop recommendations for DISA consideration on:**
 - Directory structure used to deliver software - if the existing guidance in the I&RTS is inappropriate
 - Reserved File name extensions for NT applications
 - accepted commercial practice for both runtime and configuration management needs (for the equivalent of bin, data, source, and libraries)

NT Status in the DII COE

- Issues and Impacts of the Recent DISA Guidance for NT
- **Assignment of Logo Program requirements to DII COE compliance level**
 - At what compliance level does DISA *mandate* MS Logo compliance?
 - At a specific level (e.g., 5? 8?)
 - Map Logo compliance criteria to several COE compliance levels?
- **Update the Compliance Checklist (Appendix B) of I&RTS**
- **Revise/update (where applicable) all Impacted DISA Guidance Documents (I&RTS, Style Guide, etc.,)**
- **Provide recommendations on overall process for segment compliance testing and certification**

NT Status in the DII COE

- High Priority NTAG Tasks [1]

- **Establish and Provide** Interim Guidance **for NT Segment Developers.**
- **Define and Update the DII COE** Segmentation and Certification Process for NT Segments.
- **Define an** NT Configuration Baseline **for use at each Security Classification level starting with the Baseline defined for the CSE-NT v 4. Included in this task is the Segmentation of all GOTS products in the CSE-NT configuration.**
- **Identify and Evaluate** COTS **products as potential candidates for the** DII COE Segment Installer/De-installer **for the NT Platform**

NT Status in the DII COE

- High Priority NTAG Tasks [2]

- **Identify Changes required to the current I&RTS and other DII COE Guidance Documents to cover new Logo Program Specifications and to define:**
 - Changes to the defined Segment Descriptor Files [SDF] necessary to incorporate Logo Program Specs into the DII COE.
 - Logo Program Guidance for the proper use of the NT Registry.
 - Directory Structure for the Configuration Management of Software delivered to DISA for the DII COE.
 - Windows NT Reserved File Name Extensions Usage.
- **Provide Guidance on Mapping Logo Program Requirements to Specific DII COE Compliance Levels.**

NT Status in the DII COE

- High Priority NTAG Tasks [3]

- **Identify, Evaluate, and Provide DISA with Recommendations on the Proper Use and Employment of the following COTS Technologies as possible Supplements or Augmentations to the current DII COE Capabilities for the NT kernel.**
 - Zero Administration Workstation (ZAW)
 - Internet Support Options such as: Internet Explorer, Outlook Mail
 - Collaboration and sharing technologies such as NetMeeting
 - Video and Audio streaming such NetShow
 - NT Multi-user extensions such as Hydra, WinDD, etc
 - Web Server technologies such as IIS
 - System Clustering technologies such as Wolfpack

NT Status in the DII COE

- High Priority NTAG Tasks [4]

- Middle Tier support technologies such as Transaction Server and Message Queue
- Component Object Model (COM) , Distributed COM, and COM+ usage and bridging to CORBA based systems
- Development Tools, Environments and Porting Tools (e.g. NutCracker and OpenNT)
- Real Time Systems support in NT and Windows CE

Draft Interim Guidance

- Development

- Use of the Designed for Windows NT and Windows 95 Handbook Requirements as the Foundation for Workstation Applications. (Implement Recommendation to Prepare for Windows 5.0)
- Use of the Platform Software Development Kit for all Win32 Applications Development
- Use of the Windows Interface Guidelines for Software Design for well-behaved Windows Operation.
- Use of the ISV Designed for BackOffice Requirements as the Foundation for Client/Server Applications.
- During the COE 3.3 timeframe expect to use the GOTS development and runtime environments
- Target the COE 4.0 timeframe for use of COTS based development and runtime environments
 - expect COE 4.0 will support both runtime environments

Likely Interim Guidance -Security

- **Use the Draft “*Secure NT Installation and Configuration Guide*” delivered to AOG on 5 December 1997 as the starting point for DII COE NT Platform Security.**
- **If Warranted, Use Government Segmented Security Utilities as they become available. COE 3.3 is the target for availability**
 - Process Check
 - Process Restriction DLLs
 - Folder Check
 - Clear Temp
 - Event Backup Service/Install Service for Logs
 - Logout
 - Unix Start
 - Computer Name

Likely Interim Guidance -Registration and Segmentation

- **Create Segment Descriptor Files (SDFs) for Applications, as well as following the Logo Program Requirements for Installation and Deinstallation.**
- **Determine Segment's Arena**
 - Mission Application
 - Infrastructure or Common Service
- **Register Segment**
- **Use current Segmentation Tool Kits for to Segment NT applications for Version 3.1, 3.2, 3.3.**
 - Full Segmentation process for GOTS
 - Abbreviated Segmentation for COTS

NT Status in the DII COE

- Quick Look at Task Status and On-going Near Term efforts

- **Draft “*Secure NT Installation and Configuration Guide*” delivered to AOG on 5 December 1997**
 - draft widely coordinated and reviewed with operation community
 - identifies special GOTS software to be segmented to complete NTv40 security configuration
 - application software security measures being worked
- **Interim Guidance for NT segment developers is being prepared with DISA support. Jan/Feb98 is the **target** for final draft delivery for internal coordination at DISA. Emphasis is on:**
 - Incorporation of the Logo Program Specifications
 - COTS tools for segmentation and installation support
 - Optional segment certification approaches are under consideration
- **January 98 NTAG will provide detailed summary and identify open tasks requiring NTAG member assignment**

NT Advisory Group

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Questions?

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